

CLAIMS

1. A method of preparing a vanillin material which comprises: (i) a step of carrying out a biotransformation process to generate a biotransformation medium which contains vanillin produced by said biotransformation process; (ii) a step of precipitating a crude first solid vanillin-containing solid material from a solution which is or is derived from said biotransformation medium; and (iii) purifying said first material by a process comprising contacting it with a purification fluid selected from (a) a liquefied gas whose pressure exceeds its critical pressure and whose temperature is below its critical temperature; (b) a supercritical fluid; (c) a gas; to provide a solid vanillin-containing second material which is purer than said first material in terms of its vanillin content.

2. A method according to claim 1 wherein said purification fluid is a liquefied gas.

3. A method according to claim 1 or claim 2 wherein said purification fluid is at a temperature below 25°.

4. A method according to claim 1 wherein said purification fluid is (a) a liquefied gas or (b) a supercritical fluid.
- 5 5. A method according to any preceding claim wherein said fluid is carbon dioxide.
6. A method according to any preceding claim including a further step (iv) of treating said second
10 material with a gas in a fluidised bed.
7. A method according to claim 6 in which the fluid and/or the gas is carbon dioxide.
- 15 8. A method according to any preceding claim in which said biotransformation process comprises the biotransformation of ferulic acid into vanillin.
9. A method according to claim 8 in which the
20 ferulic acid is derived from a natural plant source.
10. A method according to any preceding claim in which the biotransformation medium is a culture medium.

11. A method according to claim 10 in which the culture medium is a medium containing *Actinomycetales* microorganisms which have generated vanillin therein.

5 12. A method according to claim 11 wherein said microorganisms are *Streptomyces* species.

13. A method according to claim 12 wherein said species is *S. setonii*.

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14. A method according to claim 11 wherein said microorganisms are *Amycolatopsis* species.

15 15. A method according to claim 11 wherein said microorganisms are organisms of the strain deposited under accession number IMI390106 or mutants thereof which are (a) resistant to spectinomycin and (b) capable of producing vanillin substantially free from guaiacol.

20 16. A method according to claim 15 which employs a mutant such that the crude solid vanillin-containing material contains not more than 100ppm of guaiacol.

17. Vanillin material as prepared by the method of any preceding claim and having the following characteristics:-

- (i) absence of solvent residues;
- 5 (ii) absence of off-odours;
- (iii) colour: white;
- (iv) isotope ratios consistent with production from a precursor derived from a natural plant source.

10 18. Vanillin material according to claim 17 wherein none of guaiacol, vinyl guaiacol, eugenol and isoeugenol is present at more than 100ppm.

15 19. Vanillin material according to claim 17 or 18 wherein the colour is such that a 6% w/v solution in propylene glycol has an 'L' value of at least 94.

20 20. Vanillin material according to claim 17, 18 or 19 wherein the isotope ratios are consistent with production from ferulic acid derived from a natural plant source selected from rice, maize, sugar beet, wheat and curcumin.

25 21. Organisms of the strain deposited under accession number IMI390106 or mutants thereof which are

(a) resistant to spectinomycin and (b) capable of producing vanillin substantially free from guaiacol.